

MANUFACTURING EXTENSION PARTNERSHIP

Success Stories from the Field

LSP Technologies

Ohio Manufacturing Extension Partnership

Lsp Technologies Employs New Technology To Expand Market Reach

Client Profile:

LSP Technologies, Inc. is a 14-employee company that applies LaserPeen™ processing to various parts to combat fatigue failures and increase the reliability of manufactured components. LaserPeening creates compressive residual stresses in metal to increase the material's resistance to surface-related failures. The company offers laser shock peening services and equipment to industry on a commercial basis. LSP Technologies also builds custom equipment in its Dublin, Ohio facility for companies seeking to perform their own processing.

Situation:

LSP Technologies (LSPT)'s LaserPeen™ process is currently being applied to aircraft turbine engines, yet there are many untapped applications in aircraft structures, land-based turbines, automotive and farm equipment, medical implants, and machine tools. For LaserPeen processing of weldments it is important to predict the precise locations of the high-stress area in the weld and heat affected zone, since these are areas where the technique will be applied. Successfully defining such an application can greatly expand LSPT's market reach and provide the company with a powerful competitive advantage in commercial markets. LSPT contacted the Manufacturing Resource Office (MRO), a NIST MEP network affiliate, to assist in extending the technology to weldment structures.

Solution:

MRO's expertise in the weld modeling area was used to generate examples of stress distribution on a Gas Tungsten Arc (GTA) welded part. MRO compiled test data and analyzed the outcome. The numerical analysis results provided a foundation for defining future applications.

Results:

Identified areas of application for company technology capabilities.
Expanded market reach.
Estimating annual sales increases of \$2 million.
Created two new jobs.

Testimonial:

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"We are excited about bringing this unique capability to the market place and appreciate the analysis and value provided by the Manufacturing Resource Office."

David Lahrman, Development Manager